

Dr. William S. Stokes
Director NICEATM
NIEHS
P.O. Box 12233
MD EC-17
Research Triangle Park, NC 27709
USA

by e-mail niceatm@niehs.nih.gov

Göttingen, March 9th, 2006

Federal Register January 27, 2006: Vol. 71, No. 18, page 4603
Comments on nomination of Workshop on Alternative Methods to replace
the mouse LD₅₀ assay for Botulinum toxin potency testing

Dear Dr. Stokes,

in-process control and batch release testing of therapeutic/cosmetic preparations of Botulinum neurotoxins (BoNT) show the need for refining or replacing the currently used mouse bioassay. Potency testing of the toxins, however, is not limited to this application. The biological activity of the toxins needs to be quantified in various clinical samples as well as in food/feed and environmental matrices. For more than ten years the Institute for Applied Biotechnology in the Tropics has focused on the lab detection and quantification of Botulinum neurotoxins type A to F: During the recent years approx. 3000 samples per year have been submitted for BoNT detection and have been examined in the mouse bioassay. Serological in vitro assays were successfully developed, established and include an immunoaffinity column and a magnetic beads assay for BoNT/C and D.

Most current in vitro methods for potency testing are limited to the quantification of the biological activity of the light chain of the toxins. We are about to focus our research efforts on the development of BoNT potency tests, e.g. a cell culture based assay, which

should allow for the quantification of the BoNT biological activity of the heavy and light chain as well as for the detection of neutralizing antibodies.

For your information I have attached my short CV and my list of publications on Botulinum neurotoxins and neurotoxin detection.

I would appreciate if you will consider the comments, which you will also find attached.

Sincerely Yours,



Frank Gessler, Dr. med. vet,
Institute for Applied Biotechnology in the Tropics
University of Göttingen
Kellnerweg 6
37077 Göttingen
Germany
phone +49 551 393393
fax +49 551 393408
e-mail fgessle@gwdg.de